



# Ship's Safety Bulletin

ISSUE #2

2015

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## FIRE, FIRE, FIRE!



## Do you have the watch?

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# Ship's Safety Bulletin

## Fire, Fire, Fire!

### Do you have the watch?



The duties and responsibilities of a Fire Watch are not complicated, however a majority of the time, are under-estimated and do not provide the right person for the duty as a Fire Watch. Industrial shipyards are much the same in their selection. Let's revisit what they need to know:

A Sailor must be qualified, at a minimum, NAVEDTRA 43119-L, Section 304. This includes having completed sections 301 and 303, and fundamentals section 108. A thorough understanding of NSTM 074 Ver. 1 Rev. 5 Chapter 10 and NSTM 074 Ver. 3 Rev. 6 Chapter 22 is also required.

Supervisors must be familiar with what hot work is being conducted in their spaces, additionally, what equipment resides in the space(s) effected by hot work. There are six sides to any space, how many fire watches are required? Understand the definition of hot work (riveting, welding, flame cutting or other fire or spark-producing operation) and ensure that the work area is cleared and prepared as described in references listed. If you are in a shipyard or availability where contractors are conducting hot work, you should

familiarize yourself with the job that is being conducted in your space. National Fire Protection Association (NFPA) regulations (51B) and Standard Items 009-07 for hot work are very similar to the shipboard standards. Don't be afraid to stop hot work if it doesn't pass your litmus test. Division officers, LCPOs, Fire Marshals and CDOs tour the ship as part of their duties and should read and inspect any hot work certificates. Ensure compliance from the hot work operator and test the fire watch for an understanding of their duties.

Here are some questions to ask your fire watches:

1. What type of hot work is being conducted? (Welding, cutting, grinding, arc cutting and brazing are some of the different and distinct types of hot work)
2. Where in the space, or boundary space, is the hot work being conducted?
3. What type of fire might you expect in the space, or boundary space, based on its contents?
4. Do you have the correct fire extinguisher in full operational capability for the fire risk possibility? (Water/AFFF 2.5gal fire extinguisher, CO2 fire extinguisher, Dry-Chemical ABC fire extinguisher)
5. If you need to communicate between spaces with the fire watch(s) or hot work operator, what is your method of communication?
6. Has the fire watch verified the hot work certificate? Did they know that was part of their responsibilities?
7. At what point may the fire watch leave the area of the hot work?

As a member of the crew, you may ask this not just of Sailors, but other personnel serving as fire watches. It is in our best interest that our first defense against a fire is a trained and prepared fire watch to stop the spread of fire at the earliest possible moment. Often we can, and should, select the young Sailors for the job. It means that you have given that young Sailor their first charge of real responsibility and empowered them to make decisions. Supervisors must set them up for success by ensuring that they are armed with the knowledge and correct equipment to stand the fire watch. Trust the fire watch, but maintain supervision and be there to help if they need it or don't understand something.

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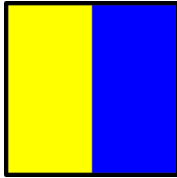
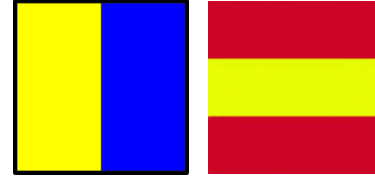




# Ship's Safety Bulletin



Working  
What  
aloft---  
it?



Ships have done a wonderful job in maintaining their fall protection equipment throughout the fleet IAW message DTG R 161233Z DEC 11 FM NAVSURFWARCENDIV PANAMA CITY FL. Recently, the Navy's Fall Protection Working Group assembled to look at improving our overall Fall Protection program. One of the new things that came from the meeting will be the development of an Afloat Fall Protection Manager course that will be available through Global Online training in fiscal year 2016. We also worked with NAVSEA and NSWC, Panama City to produce an updated fall protection equipment message that will be released in the very near future.

Another topic of discussion was our working aloft Instructions. A majority of the working aloft instructions we review in the Fleet are outstanding.

But one of the most important things not discussed in the instruction is what the command would do if someone did fall and was arrested aloft, hanging by their fall protection equipment. Does the command know what could happen physically to the Sailor as he is hanging, or how long before circulation is affected? Does your instruction have an Emergency Action Plan that states who you would call or what resources you would use to rescue the Sailor? If your aloft instruction does not address this, recommend discussion within the command leadership for an inclusion for such events in your working aloft bill for inport and underway aloft procedures. A good practice would be to add the base Fire Department contact information into your instruction or to contact the nearest crane if available on the pier. Come up with a good plan of action for the "what if" and brief it during your working aloft ORM brief prior to going aloft to ensure everyone is aware of what to do in an emergency of this type.

Remember, our Sailor's safety is paramount!  
Please keep all of your comments and/or concerns coming.

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# Ship's Safety Bulletin



## ELECTRICAL READINESS

### TAGOUTS

The Naval Safety Center has seen a growing trend of tag out violations due to administrative errors in recent history. One of the main reasons is improper label-plate identifier and the Danger Tag System/ Component Identification have to match in accordance with the Tag-out User Manual (TUM) as referenced below;

#### 1.6 ESTABLISHING TAG-OUTS.

- a. Use enough tags to completely isolate the system, piping, or circuit being worked on and to prevent operation of a system or component from all stations that could exercise control. As a minimum, system diagrams or circuit schematics shall be used by preparers and reviewers to determine the adequacy of all tag-out actions. The system/component identification (for example, 1MS-V1, HYDRAULIC PUMP BKR @ 1S-4P-F(1)) and position/condition (for example, OPEN, SHUT, BLANK FLANGE INSTALLED) of the tagged item should be indicated by the most easily identifiable means. As a minimum, the System Component ID/\*Location block of the Tags to be hung sheet (THS) and System/ Component ID block on the tag must include the actual label-plate component identifier (e.g., valve number or circuit designation). If slight differences between the identifiers are noted, (e.g., 64-4P-K(1) LO PMP #3 on the tag when label-plate identifier reads 64-4P K(1) L.O. PUMP No. 3, etc.) it is not necessary to re-create and hang a new tag provided that there is no doubt that the correct component has

been tagged. If doubt exists, contact the Authorizing Officer for resolution. Appendix I provides the administrative procedures for naming components when creating, updating and maintaining the electronic tag-out program.



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# Ship's Safety Bulletin



## ELECTRICAL READINESS

### WORKBENCHES

In 2014, Naval Safety Center conducted 78 assessments on US NAVY Afloat surface ships. Listed below are statistics found concerning electrical workbenches. NSTM 300 states "At a minimum, one electrical safe workbench onboard shall be maintained at all times." Guidance for installation/maintaining work benches is provided in NSTM 300, appendix H. PMS coverage established under MIP 6652/006 A-1+ provides additional direction. If you are re-designating an electrical work bench to a mechanical workbench, follow the guidance set forth in NSTM 300, appendix H.6

Common discrepancies with electrical work benches are as follows:

1. (36%) Damaged insulation exposing metal parts of the electrical work bench.
2. (19%) Missing required placards/signs.
3. (22%) Grounding straps did not meet requirements of PMS.
4. (16%) Downgraded electrical workbenches did not have an approved Departure from Specification (DFS)

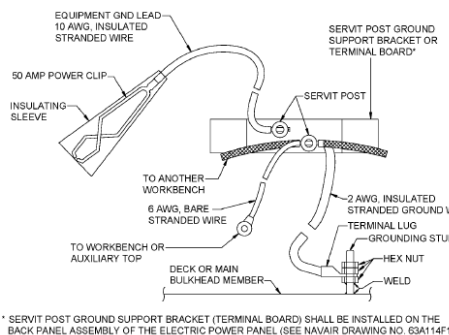


Figure 300-H-1 Workbench Grounding

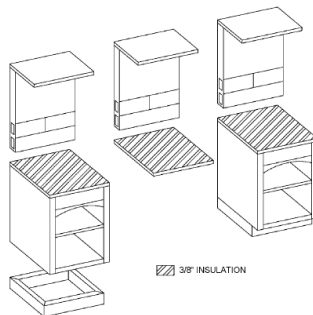


Figure 300-H-2 Insulation

**DANGER**  
ELECTRICAL SHOCK HAZARD  
DO NOT TOUCH ENERGIZED CIRCUITS  
  
THIS IS AN ELECTRICALLY SAFE WORKBENCH

**DANGER**  
WORKING ON ENERGIZED ELECTRICAL EQUIPMENT  
IS PROHIBITED ON THIS WORKBENCH  
  
THIS IS NOT AN ELECTRICAL SAFE WORKBENCH  
  
ALL POWER SOURCES EXCEPT 110V CONVENIENCE POWER  
HAVE BEEN DISABLED AT THIS WORKBENCH

**DANGER**  
DO NOT ATTEMPT TO ADMINISTER FIRST AID OR  
COME INTO PHYSICAL CONTACT WITH AN ELECTRIC  
SHOCK VICTIM BEFORE THE POWER IS SHUT OFF

**DANGER**  
REMOVAL OF PERSONNEL IN CONTACT WITH  
ENERGIZED ELECTRICAL CIRCUITS  
  
DO NOT TRY TO REMOVE VICTIM WITH YOUR BARE HANDS  
1. DEENERGIZE THE CIRCUIT IF POSSIBLE  
2. IF CIRCUIT CANNOT BE DEENERGIZED:  
- YOU MUST INSULATE YOURSELF FROM HIS  
ENTIRE BODY BY USING A NON-CONDUCTOR  
TO PUSH HIM FREE ON THE CONTACT  
- IF YOU ARE IN CONTACT WITH A LIVE  
CIRCUIT AND NO ONE IS NEARBY TO  
HELP, TRY TO BREAK THE CONTACT BY  
THROWING YOUR BODY.

**Are your work benches in compliance?**

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See NSTM 300, appendix H for all placard and  
posting requirements





# Ship's Safety Bulletin

## Summers coming! Be prepared to monitor heat stress!



The QUESTemp 48N heat stress meter has replaced the RSS-220 as the authorized Heat Stress Monitor for afloat units. NSN 6685-01-584-0785 has been assigned to the QUESTemp 48N and the PMS is available under MIP 4361. Please review the safety advisory 4-13 regarding WBGT monitor on the Naval Safety Center's [Webpage](#) for further information.

The Navy and Marine Corps Public Health Center has developed supplemental and simplified operating instructions using the Heat Stress Monitor User's Manual. This can also be used to assist with training personnel that are required to complete the NAVEDTRA 43704 318 Heat Stress Monitor Watch Station Qualification and are available on the Afloat surface NAVOSH website at [http://www.public.navy.mil/comnavsafecen/Documents/afloat/Surface/Md\\_Hz/Questtemp%20operating%20instruction.pdf](http://www.public.navy.mil/comnavsafecen/Documents/afloat/Surface/Md_Hz/Questtemp%20operating%20instruction.pdf)

The QUESTemp 48N performs traditional heat stress monitoring without maintaining a wet bulb. Mathematical models were developed to create a Waterless Wet Bulb calculation through a combination of dry bulb temperature, globe temperature, relative humidity, and air flow. Empirical measures validated the accuracy of these calculations.

The QUESTemp 48N automatically calculates stay times in order to manage work/rest regimens. Guidance is based on the screening criteria for heat stress as defined in the ACGIH TLV Handbook, U.S. Navy PHEL charts, and Flag Conditions for U.S. Navy/Marine Corps Ashore.  
(continued on page 7)



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## Sensors

### Globe Thermometer

The globe thermometer (left position) gives an indication of the radiant heat exposure on an individual due to either direct sunlight or hot objects in the environment. This is accomplished by placing a temperature sensor inside a blackened copper sphere and measuring the temperature rise. The WBGT index is based on the response of a 6 inch diameter globe. The QUESTemp uses a 2 inch diameter globe for a faster response time. The temperature of the 2 inch globe is correlated to match that of a 6 inch globe.

### Waterless Wetbulb & Relative Humidity Sensor

The relative humidity sensor (middle position) is used to calculate the Waterless Wetbulb from a combination of dry bulb temperature, humidity and wind speed measurements. The Waterless Wetbulb is used to calculate an estimated WBGT value.

### Dry Bulb Thermometer

The dry bulb thermometer (right position) measures the ambient air temperature. This measurement is used in the outdoor WBGT calculation when a high solar radiant heat load may be present. The series of white plates surrounding the sensor shield it from radiant heat.

A B C

A. Globe thermometer

B. Relative humidity sensor

C. Dry bulb thermometer



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